STUDIES IN THE EUPATORIEAE (ASTERACEAE). CXLI.

A NEW GENUS, ASPLUNDIANTHUS.

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The previously unresolved Eupatorian elements of the northern Andes include a group of Critonioid species having narrow style branches, slender pappus bristles, mostly scarious subimbricate phyllaries and 6-10 flowers per head. The group differs from most other Critonioid genera in the northern Andes by the narrower style branches and by the smaller sized pollen. The shorter-lobed usually gland-bearing corollas, the finer pappus setae and the lack of areolar lacticifers distinguish the genus from the more wide-spread but lower elevation Critonia. The complete lack of enlarged tips on the pappus setae provide a further distinction from some genera such as Grosvenoria. The most closely related genus seems to be Critoniella also of the northern Andes but that differs by the extremely narrow essentially terete appendages on the style branches, by the presence of only large thin-walled cells in the carpopodium, and by the long petioles on the leaves. The distinct group of species is placed here in a new genus, Asplundianthus.

The new genus shows variation in habit with leaves usually trinervate but sometimes pinnately veined, inflorescences pyramidal to densely corymbose and plants nearly glabrous to tomentellous. There is a strong tendency toward glabrous achenes in the genus but some species especially A. scabrifolius and A. stuebelii are sparsely scabrid to setiferous or even sparsely glanduliferous on the upper part. Pollen size is also significant in the genus but shows some variation. The smaller pollen of ca. 20μ occurs in most species of Asplundianthus, in the related Critoniella and actually in most members of the Eupatorieae. Among the Critonioid genera of the Andes, however, pollen sizes near 25μ are unusually common. One species of Asplundianthus, A. arcuans tends to have larger pollen and is also unusual in the genus by the long narrow base on the corolla, and by the more enlarged tips and more papillose shafts on the style appendages. The species, while not differing particularly in habit, is probably worthy of a separate subgenus. One other case of larger pollen in a specimen of A. stuebelii proved to involve Type II pollen which was intermixed with some normal-sized Type I grains. One other useful feature of the genus is the detailed structure of the carpopodium having many rows of small moderately thick-walled cells. The cells form the stopper-shaped base which usually tapers gradually into the body of the achene above.

The genus is named for Erik Asplund, pre-eminent field collector of Ecuadorian plants.

Asplundianthus R.M.King & H.Robinson, genus novum Asteracearum (Eupatorieae). Plantae suffrutescentes vel frutescentes erectae pauce vel multo ramosae. Caules teretes vel leniter angulati. Folia opposita plerumque breviter petiolata, laminis ovatis vel lanceolatis laevibus vel aliquantum bullatis base plerumque rotundatis margine subserrulatis vel serratis. Inflorescentiae plerumque paniculatae, ramis primariis plerumque oppositis. Squamae involucri subimbricatae ca. 2-25 multiseriatae valde inaequales plerumque scariosae et straminae 2-4-costatae interiores facile deciduae; receptacula plana glabra. Flores 6-10 in capitulo; corollae anguste infundibulares, lobis breviter triangularibus laevibus extus glanduliferis vel glabris; filamenta in parte superiore subangustata, cellulis quadratis vel oblongis, parietibus aliquantum transverse annulate ornatis; cellulae exotheciales subquadratae, appendices parum longiores quam latiores; styli inferne glabri non nodulosi, ramis anguste linearibus leniter mamillosis. Achaenia prismatica 5-costata glabra vel superne pauce setifera raro pauce glandulifera; carpopodia obturaculiformia superne non abrupte demarcata, cellulis inferioribus multiseriatis parvis quadratis, parietibus mediocriter incrassatis; pappus setiformis uniseriatus, setis ca. 30-40 uniformiter scabris base angustatis superne non incrassatis, cellulis apicalibus acutis. Grana pollinis sphaerica plerumque 20-23μ diam. minute spinulosa.

Species typica: Eupatorium pseudoglomeratum Hieron.

Our studies of the genus indicate that it contains the following nine species.

Aspludianthus arcuans (B.L.Robinson) R.M.King & H. Robinson, comb. nov. Eupatorium arcuans B.L. Robinson, Proc. Amer. Acad. 54: 237. 1918. Syn. Eupatorium gongorae Cuatr., Trab. Mus. Madrid Bot. 29: 17. 1935. Colombia.

Asplundianthus densus (Benth.) R.M.King & H.Robinson, comb. nov. *Eupatorium densum* Benth., Pl. Hartw. 200. 1845. Colombia.

Asplundianthus pseudoglomeratus (Hieron. ex Sod.) R.M.King & H.Robinson, comb. nov. *Eupatorium pseudoglomeratum* Hieron. ex Sod., Engl. Bot. Jahrb. 29: 8. 1900. Ecuador.

Asplundianthus pseudostuebelii R.M.King & H.Robinson, sp. nov. Plantae frutescentes usque ad 3 m altae. Caules dense hirtelli. Folia breviter petiolata, petiolis ca. 1 cm longis, laminis anguste ovatis usque ad 14 cm longis et 6 cm latis base rotundatis fere ad basem trinervatis margine dense crenulatis vel remote serrulatis apice sensim anguste acuminatis supra parum bullatis hispidulis subtis tomentellis. Inflorescentiae late corymbosae, ramis dense hirtellis vel hirsutis. Capitula ca. 9 mm altae; squamae involucri ca. 20 ovatae vel lineares 1-7 mm longae glabrae bicostatae apice rotundatae; receptacula plana glabra. Flores 10 in capitulo; corollae lavandulae ca. 5 mm longae, lobis extus glanduliferis; filamenta antherarum in parte superiore ca. 300μ longa; thecae antherarum ca. 1.5 mm longae. Achaenia ca. 2 mm longa sparse glandulifera superiore in costis sparse minute setifera; carpopodia prominentia, cellulis superioribus inflatis, parietibus veteribus inferioribus mediocriter incrassatis; setae pappi ca. 35.

Type: COLOMBIA: Cundinamarca: Eastern Cordillera, ca. 15 kms north-northwest of Facatativá. Elev. ca. 2330 m. July 14, 1965. *R.M.King*, *A.E.Guevara* & *E.Forero G. 5923* (US, holotype; NY, isotype). Paratypes: COLOMBIA: Caldas: Cordillera Central, Salento to "Laguneta." Old Quindio Trail, alt. 2500-2800 m. *Killip* & *Hazen 9106*, *9146* (US); "Pinares" above Salento, alt. 2600-2900 m. *Pennell 9208* (US); Cauca: Río Vinagre, 3400 m. *Dryander 1783* (US); "Calaguala," Coconuco, alt. 2500-2800 m. *Pennell 7180* (US); Entre Puracé y su páramo; matrorrales en Chiquín, 3100-2700 m. *Arbeláez* & *Cuatrecasas 5967* (US); Cundinamarca: Tequendama, about 2500 m alt. *Haught 6487* (US); Bogota, 2680 m. *Triana 1207* (US); Nariño: 3 km n. of Victoria, Río Chingual drainage, 2680-2840 m ele. *Ewan 16184* (US, NY).

The new species is what has been called *Eupatorium stuebelii* in Colombia. The Ecuadorian *A. stuebelii* differs most obviously in its shorter more ovate more abruptly acuminate leaves, but it also differs

by the lack of glands on the achene and by the smaller thicker-walled cells of the carpopodium. The carpopodium of the new species has larger cells and thinner walls than most members of the genus. The cell walls of the carpopodium do not become noticeably thickened until fully mature. The collection from Nariño may represent a distinct subspecies on the southern extremity of the range. The plant is described as being subscandent and the stems and branches are more coarsely hirsute. The leaves are trinervate from the base of the blade and the margins are rather remotely serrulate. Leaves of other collections are trinervate from distinctly above the base of the blade and the margins are more closely crenulate.

Asplundianthus scabrifolius (B.L.Robinson) R.M.King & H.Robinson, comb. nov. *Eupatorium scabrifolium* B.L.Robinson, Contr. Gray Herb. n.s. 77: 36. 1926. Peru.

Asplundianthus smilacinus (H.B.K.) R.M.King & H.Robinson, comb. nov. *Eupatorium smilacinum* H.B.K., Nov. Gen. et Sp. 4: 87. 1818. ed. folio. Colombia.

Asplundianthus stuebelii (Hieron.) R.M.King & H.Robinson, comb. nov. *Eupatorium stuebelii* Hieron., Engl. Bot. Jahrb. 21: 329. 1895. The concept of *A. stuebelii* is restricted here to Ecuadorian material lectotypified by *Stübel 272*. The Colombian material represented by the cotype *Stubel 164* is here excluded. Ecuador.

Asplundianthus toroi (B.L.Robinson) R.M.King & H.Robinson, comb. nov. *Eupatorium toroi* B.L.Robinson, Contr. Gray Herb. n.s. 104: 28. 1934. Colombia.

Asplundianthus trachyphyllus (Hieron.) R.M.King & H.Robinson, comb. nov. *Eupatorium trachyphyllum* Hieron., Engl. Bot. Jahrb. 36: 467. 1905. Peru.

Immature material (*J.A.Steyermark & G.C.K. & E.Dunsterville 100752*) may represent an additional undescribed species from the State of Tachira in Venezuela.

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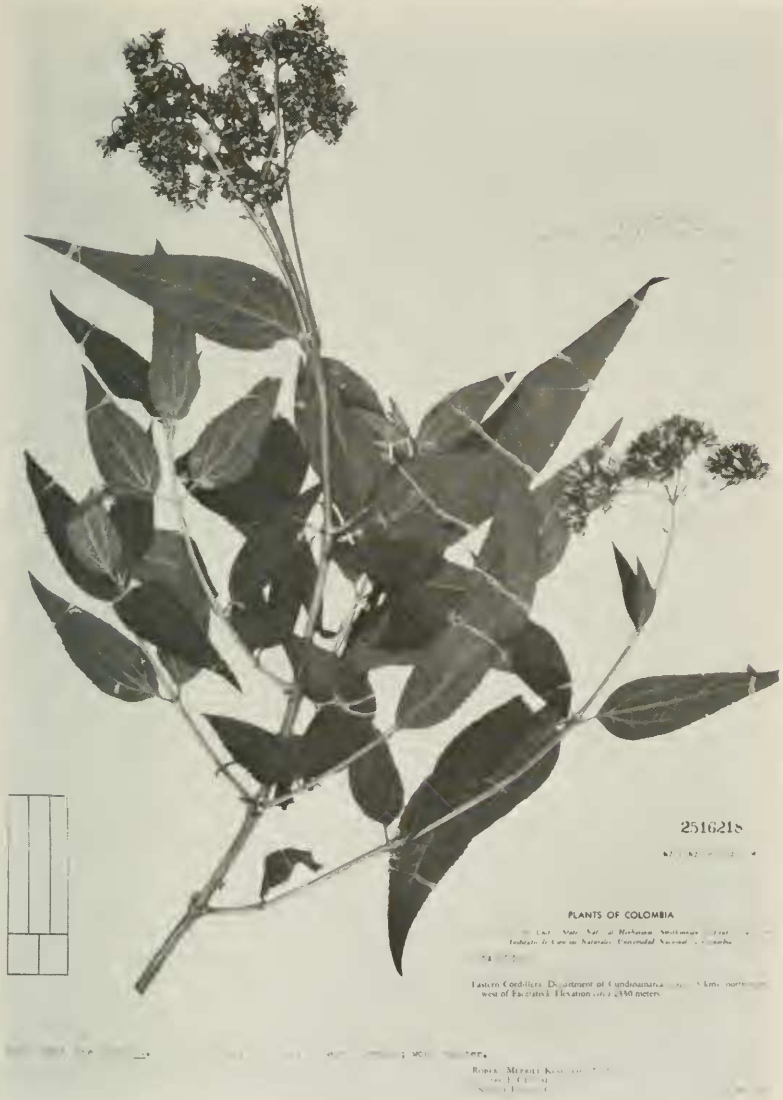
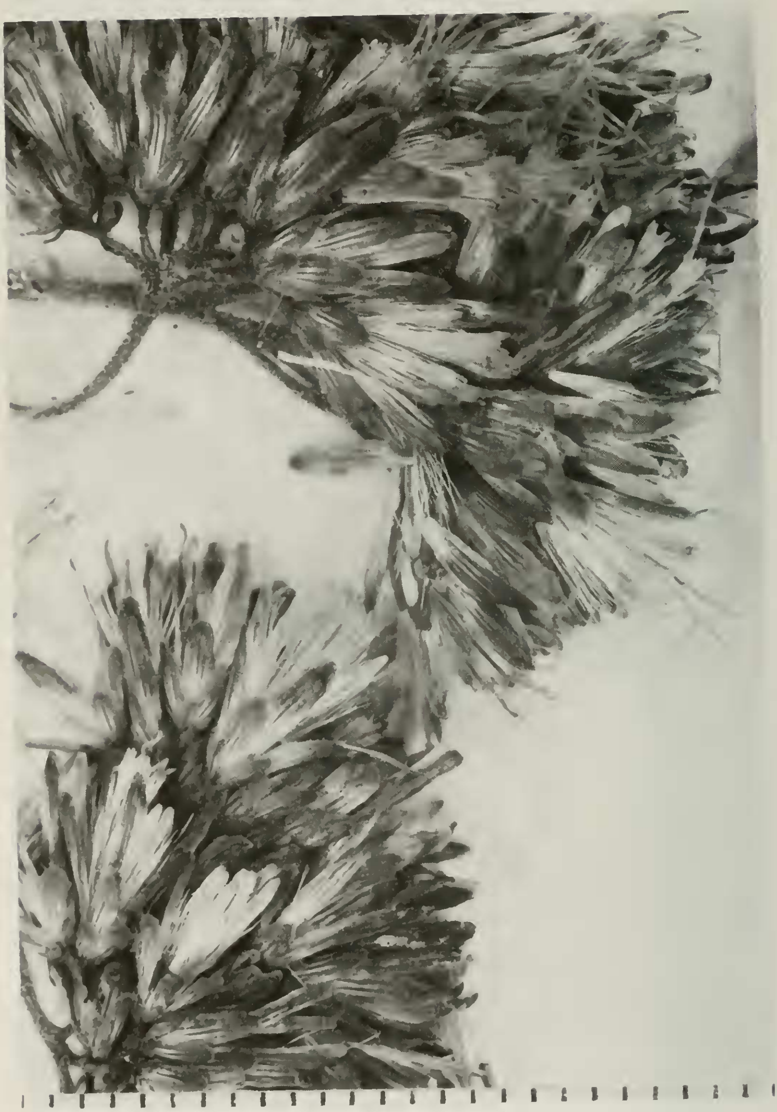


Asplundianthus pseudostuebelii R.M.King & H. Robinson, Holotype, United States National Herbarium. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



Asplundianthus pseudostuebelii R.M.King & H. Robinson, enlargement of heads.